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TABLE OF CONTENTS.

PAGE.

EDITORIAL ARTICLES:—The Chrysanthemum 553
Among the Pines of Northern Michigan.—I.....*Professor W. J. Beal.* 554
Hardy Shrubs With Ornamental Fruit.....*S. C. Mason.* 554
Holiday Notes in Southern France and Northern Italy.—V.
George Nicholson. 555

NEW OR LITTLE KNOWN PLANTS:—A New Winter Blooming Begonia. (With Illustration.).....*V. Lemoine.* 556
Viburnum Sieboldii. (With Figure.).....*C. S. S.* 556

PLANT NOTES:—Myrica rubra.....*Louis Bœhmer.* 556

CULTURAL DEPARTMENT:—Bromelias.....*W. Watson.* 556
Figs in the South.....*George B. Walsh.* 558
The Flower-Garden in Autumn.....*E. O. Orpet.* 558
Palms for Small Places.....*W. H. Taplin.* 559
Orchid Notes.....*John Weathers, F. Goldring.* 560
Melothria punctata.....*S.* 560
Begonia Socotrana, Jasminum gracillimum.....*W.* 561
American-grown Cauliflower Seed; Two New Squashes.
Professor E. S. Goff. 561

CORRESPONDENCE:—Growing Timber Without Knots.....*B. E. Fernow.* 561
Ocneria dispar.....*Quis.* 562

EXHIBITIONS:—The Chrysanthemum Show at Philadelphia.....*S.* 562
The Chrysanthemum Show at Boston.....*D.* 563

NOTES..... 564

ILLUSTRATIONS:—Begonia Triomphe de Lemoine, Fig. 144..... 557
Viburnum Sieboldii, Fig. 145..... 559

The Chrysanthemum.

THE celebration in England, and in several countries on the continent, of the hundredth anniversary of the introduction of the Chrysanthemum into European gardens, is one of the most interesting horticultural events of the year. It can hardly be said that these festal ceremonies have done or will do much to kindle the enthusiasm of Chrysanthemum growers, for the simple reason that the ardor of their devotion is already a proverb, and it could hardly be more fervent. Thirty-five years ago an eminent horticultural authority declared that the passion for Chrysanthemums had become a mania in the British Islands; and certainly the zeal of English horticulturists in this direction has known no languor since. But this centennial commemoration has really done much to stimulate historical research. All the records of the century have been ransacked for facts and illustrations that will throw any light upon the origin and development of the flower, and, after the elaborate treatment of the subject by the horticultural press and the publication of the papers read at the Chiswick conference, little will be left untold of the history of the Chrysanthemum since its invasion of Europe a hundred years ago—or should we say two hundred years ago? The *Gardeners' Magazine*, which is the earliest of English horticultural journals to issue a centennial number—and an admirable number it is—repeats the quotation from Jacob Breynius in the "Prodromus Plantarum Rariorum," a work published in 1689, in which six varieties of the Chrysanthemum are described as cultivated in Holland at that time; and who knows for how long a period before? There is little doubt, however, that these flowers were subsequently lost to Dutch gardens. At least when the large flowering Chinese Chrysanthemum was re-introduced a century later, the gardeners of Holland knew nothing of it.

But the Chrysanthemum has a long history as a cultivated flower in the gardens of Asia before it was introduced to European civilization, whatever may be the exact date of its advent there. In northern and central China it has been grown with rare skill from the earliest times of which that ancient race has any authentic record. The well known dish in the Franks' collection in the British Museum, decorated with this flower, is more than 450 years old, and in Japan it was wrought on the hilts of imperial swords forged seven centuries ago. But there is an earlier history still, of which no record exists in porcelain or bronze, and many a botanist would rather be able to identify the wild species from which the Chrysanthemum originated than to be familiar with all its garden history.

Glancing for a moment at the history of the Chrysanthemum in Europe, one is struck by the remarkable series of surprises which have occurred at intervals to revive or increase the popular interest in its cultivation. Of the three plants introduced a century ago, a purple one alone survived, and its value as an autumn flower was at once appreciated. Rose colored and buff flowers appeared a few years later, followed by the quilled yellow, the Spanish brown and the large lilac, and soon a white sport from the purple variety revealed the variable character of the plant and aroused the eagerness of collectors, so that during the first twenty years of this century it already ranked among the most popular of garden flowers. About the end of this period, striking novelties in form and color were imported, until fifty well-tested varieties were found in English gardens. None of these could win a first premium in an exhibition now, but many of them had wonderful beauty of form, and, judging from the illustrations then published, they were characterized by a wayward grace in the disposition of the long florets which in recent times would be attributed to a mixture of Japanese blood. Meantime the Chrysanthemum, under the sunny skies of France, had been ripening seed, and ardent admirers of the flower began to raise seedlings. Growers in Jersey soon followed, and even in England, where a sunless climate made the ripening of seeds a difficult matter, some seedlings were raised; and in 1835 appeared, among others, the variety known as Nonpareil, which is still grown and exhibited. The introduction of the Pompon class in 1846 was another distinct advance, and Chusan Daisies, as these flowers were called, at once became reigning favorites in France. The great exhibitions began in the middle of the century, and since then the evolution of the flower has been closely watched by enthusiasts in its culture in all the temperate climates of the globe. Varieties which did not bloom until late in spring were followed by precocious kinds, which flowered in August, until the year was almost girdled with Chrysanthemums. Then came Mr. Fortune's notable introduction of the Japanese varieties. These were contemptuously received by the old school of florists because they failed to conform to the rigorous standard of perfection. But of the seven original importations five are still common in gardens, while Golden Dragon and Grandiflorum retain their position in the foremost rank of exhibition flowers.

But the prime value of these introductions from Japanese gardens was not revealed until they proved their potency as parent plants in the hands of the hybridizer. Colors have been intensified until we can reasonably hope for a clear crimson, and cultural surprises in the matter of form and habit have signalized almost every exhibition season. The latest astonishment came two years ago, when the Mrs. Hardy bloomed in Boston, and this year a flower with the same downy pubescence, but a different color, has been found in a Japanese importation by Mr. Peter Henderson. What will be the next surprise? The blue flower, reputed as hiding somewhere among the temples of the East, is no doubt a myth. But was the painting of a climbing Chrysanthemum seen by Mr. Molyneux a product of the imagination only? Can anything be hoped from an infusion of the blood of any of the wild varieties, especially from that of some ancestral type? Such a return to original sources might restore the vigor of constitution which pampering for many generations has impaired. Time alone can answer these questions; but we may rest assured that whatever changes may come, the Chrysanthemum will retain its hold upon popular affection.

In American gardens the Chrysanthemum has long been

a reigning favorite, and American gardeners can claim a fair share of credit in developing its beauties. Our climate offers exceptional advantages for the production of seedlings, and the names of Dr. H. P. Walcott, W. K. Harris, John Thorpe and T. H. Spaulding will always be honorably associated with the history of the plant. Enthusiastic cultivators of Chrysanthemums were confined, a few years ago, to the more eastern states; but they are multiplying all over the country, and perhaps the finest collection of flowers ever seen in America was exhibited at the late show in Indianapolis. That popular appreciation of our flower is not on the wane is evident from the fact that the best Chrysanthemum blooms have been selling in the New York market at five and six dollars a dozen, and in one instance which has lately come to our knowledge, twenty-five flowers were sold by the grower for twenty-five dollars.

Among the Pines of Northern Michigan.—I.

THE southern peninsula of Michigan has no mountains nor very high hills nor any rocky surface worth speaking of within its borders. There are hills, plenty of lakes, and a fair proportion of swamps and marshes. The streams are usually slow in the north, and naturally clear, but the largest ones are often made muddy by the logs floating down to the mills.

White Pine once extended to a line running nearly west from the foot of Lake Huron. Probably nine-tenths of the merchantable Pine has now been removed. This has been taken nearly clean from the southern part of its former limits and in the vicinity of large streams. The lumberman has chased the Pines, Hemlocks and Cedars back from the streams and railroads over the hills, and when too remote for convenient transportation, he has constructed new railroads into the heart of the timber. It is a rare thing to see a good forest near a railroad.

Where the soil was of good quality much of the stump land has been cleared and converted into farms, but where the soil was poorest much of it still remains nearly as it was when the lumberman left for new conquests. It is no longer thought necessary to depend on a river to float logs to market. As proof of this, Mr. Potts has constructed a railroad along the Au Sable River to Lake Huron, on which he transports logs to his large mills. He avoids losses, saves time and money, by abandoning the old slow process of employing a boom company to take charge of his logs while passing down the river.

The attention of one riding for the first time along any of the railroads of northern Michigan is sure to be arrested by the dead standing or fallen Pines, mostly small and slender, or knotty and forked at the top; trees left because there was no money in them. If recently abandoned and killed by spreading fires, the bark still covers the trunks, and most of the limbs are there; if abandoned and killed some years before, the bark has fallen, leaving a smooth trunk, which reveals every unevenness in the surface, and the ends of many limbs have broken off and fallen. The period of lumbering is indicated by the signs above mentioned, as well as by the size of the young growth which is covering the ground. The small young trees and the shrubs still standing, though dead, often tell of the destructive sweep of one, two, three or more fires since the largest trees were cut and removed.

Three to six weeks in each summer of the past two years spent in traveling in the northern half of the lower peninsula has made me somewhat familiar with this portion of Michigan. The experiment station of the Agricultural College is testing a few acres of Jack Pine plains in five different counties of the state. In connection with this work, I take great interest in studying the native plants with reference to species, distribution, modes of growth and adaptability to cultivation. In new ground, roughly cultivated, and sown to Grasses or Clovers for two years, the increased vigor of some of the herbaceous perennials has been very noticeable.

A large Hemlock near the margins of a recently cleared forest does not give much indication of the genuine grace and beauty of a young tree well grown in an open space. The trunk is nearly cylindrical till we come to limbs near the top, which tapers rapidly to the apex. The limbs leave the trunk at a very wide angle. Dead Hemlocks present a peculiar picturesque and rugged appearance not easily forgotten. In the swamps, or near them, are many Balsam Firs, some of them with long, dense, conical tops. The Spruces are slender, with branches slanting downward quite rapidly and curving outward at the ends.

The Arbor-vitæ or White Cedar is everywhere in the swamps and varies much in appearance. In autumn we see the dead or dying fan-shaped branches and leaves among those of more recent growth, which are green. Every one has an idea of the shape of the trunk of a well grown White Cedar, as they are almost the only trees used here for telegraph poles. Very large trunks are sometimes seen, where trees have not been much crowded and where the soil and climate are suitable. We measured one at three feet from the ground, with a diameter of four feet and four inches. It tapered very rapidly, and was not much higher than some of the larger telegraph poles in large cities. The tree stands near Kingsley, in the south-eastern part of Grand Traverse County.

The Norway Pine, as it is always called by lumbermen in Michigan, is the Red Pine (*Pinus resinosa*, Ait.). It is abundant on the sandy lands above referred to, sometimes scattered here and there in open places among the Jack Pines, or occasionally found in large groves in which there are but few other trees, and so thick that underbrush is very scanty. A low tree, with a large top, as found in open places, makes a rapid growth, consequently has much sap-wood. They are called Black Norways by lumbermen, and are considered of little value. Tall trees, where they have been crowded, have small tops, and long, naked, straight trunks. These are called Yellow Norways, as most of the wood is heart-wood and yellow. The bark is not in vertical folds or ridges, as is familiar in the White Oak and Tulip tree, but comes off in irregular patches or scales from an inch to three inches in diameter. The bark is dull red in color. The top is more nearly like that of the Austrian Pine than that of any other tree in general cultivation. It has a healthy, sturdy look, and in every respect, so far as observed, is a much finer ornamental tree than the Austrian Pine. The seeds are not abundant, hence young trees are not often raised and put on the market. The trunks are extensively used for flooring, bridges, timbers for frames of houses and piles. In Kalkaska County I measured a sound stump three feet and three inches in diameter, though most of the logs cut at the mills would not exceed a foot and a half in diameter.

Across the Jack Pine plains, in many places, teams may be driven almost anywhere. A road soon becomes worn and cuts into the sand. A new road is easily made by cutting a few trees and bushes, or, perhaps, with no outlay of labor. Roads are cheap and abundant, running everywhere, often confusing the stranger, as he may not know whether this is a highway or a road leading to a camp or a small farm-house. These winding roads, in open places through the valleys and around or over the gentle hills among the Jack Pines and scarlet rocks, are often very pleasant, though in time they become monotonous to the traveler.

Agricultural College, Mich. *W. J. Beal.*

Hardy Shrubs with Ornamental Fruit.

A FEW notes on the appearance of certain shrubs in this region may be of interest to eastern readers.

Rhamnus Caroliniana, as it grows in the grounds of the Agricultural College here, is a neat, tree-like shrub of five feet in height. The broadly lanceolate, recurved leaves are three to five inches long, shining dark green. The foliage alone would render it highly ornamental, but with the added attraction of its load of brightly colored fruit it becomes one of the most desirable specimen shrubs for the lawn. The fruit is a three-seeded, globose drupe, the size of a small cherry, borne in simple panicles of three to six in the axils of the leaves. About the 1st of August these take on a color too deep for scarlet and yet not crimson, the effect of which, in contrast with the dark polished leaves, is wholly pleasing. This color is maintained till the last of September, when they ripen to a waxy black.

The next botanical order affords two attractive plants which are abundant in the wooded ravines of eastern Kansas and as far west as the Solomon Valley. These are the Wahoo and the Bitter Sweet.

The Wahoo or Burning Bush, *Euonymus atropurpureus*, is found in thickets along the borders of timber, growing to the height of six or eight feet—a perfect miniature tree. The odd little velvety, dark brown blossoms will be noticed only by the real lover of trees and woods; but the brilliant coloring of the autumn fruit challenges the admiration of every passer. The outer coating of the fruit is pale crimson, showing, as it opens, the seeds encased in a deep scarlet aril. The European Wahoo, growing in our trial rows, has fruit a little smaller, with the seed enclosed in an orange aril.

The closely allied Bitter Sweet, *Celastrus scandens*, twines so closely with the branches of its supporter that the rambler

among the trees is constantly startled with the vision of sober, gray Elms and Oaks bearing drooping panicles of orange and scarlet fruit. These plants may be procured in abundance to adorn the humblest yard, while they would not be out of place on the most elaborate grounds.

The eastern Snowberry, *Symphoricarpus racemosus*, has not proved as thrifty a grower with us as in its native haunts; but some plants which I rooted under glass last winter have made a growth of two feet since they were planted out, and are bent to the ground with their weight of snowy white berries. Its more western cousin, the Coralberry, *S. vulgaris*, is so much of a nuisance along roadsides and in pasture lots that its long, slender stems, covered with the currant-like crimson berries, seldom get credit for the beauty they possess. This little shrub would be valuable for planting on embankments or other places where needed to hold the soil, as well as to hide an unsightly place.

The Wolfberry, *S. occidentalis*, is found abundantly on the head waters of the Solomon River and is equally as hardy as the last. It is more stiff and erect in habit, and the fruit, a trifle larger, is white. Neither of these should be planted where their propensity for sprouting from the roots can do harm.

Two Privets growing in our nursery-rows seem worthy of mention in this list.

Ligustrum buxifolium bears an abundance of berries in erect, close heads, several often branching from one stem, the terminal one being the larger. The other is represented by a single unnamed bush. This bears larger berries in a loose, raceme-like cluster, which becomes so heavy that it weighs down the slender stem, making it almost pendulous. These shiny black bunches are so numerous that the plant is a very pretty sight. Specimens of this I referred to Professor Sargent last year and he regarded it as a large fruited variety of *Ligustrum vulgare*.

The Black Alder of the Prinos division of Ilex, *I. verticillata*, thrives well in our trial rows, and those plants which fruit bear a heavy annual crop of the brilliant scarlet berries which make them so ornamental in autumn and early winter. The leaves are dull and without much beauty in our climate, but they fall early, thus better displaying the wealth of fruit.

A specimen or two of this, placed where their bright color is thrown into relief by some dark background, makes a pretty picture.

S. C. Mason.

Manhattan, Kan.

Holiday Notes in Southern France and Northern Italy.—V.

LAKE Como, in the opinion of many the most beautiful of the north Italian lakes, is enclosed by an amphitheatre of mountains, some of which rise to a height of 7,000 feet. Olive groves and terraced vineyards occupy a large portion of the lower slopes, and Chestnuts and Walnuts ascend to the very crests of the lower mountains wherever soil enough for them is to be found. Large Fig-trees are a feature near the villas by the edge of the lake; in vases along the walls of several villa gardens we noticed the scarlet flowered *Russellia juncea*, and in the shrubberies a number of ornamental woody plants which have already been mentioned in these papers. Como itself, the capital of the province, is a quaint town; it contains many large silk factories. It is interesting, too, as being the birthplace of both the elder and the younger Pliny, and of the electrician, Volta, whose statue occupies a prominent position near the quay.

From Menaggio a narrow gauge railway runs to Porlezza, at the north-eastern extremity of the Lake of Lugano. The highest point of the line is upward of 600 feet above the Lake of Como, beautiful views of which are obtained from the windows of the carriage. The journey by steamboat from Porlezza to Lugano—the largest and busiest town in the Swiss canton of Ticino—is a delightful one; in our opinion the scenery is more picturesqe than on the Lake of Como, that of the eastern arm of the Lugano Lake being wild and deserted. On the lower slopes the vegetation seems nearly the same on both lakes.

In the pleasant garden of the Hotel du Parc, at Lugano, on the site of the suppressed monastery of San Maria degli Angioli, the following notes were made: *Buddleia Lindleyana*, with drooping inflorescences eighteen inches long, here attained a height of ten feet, and formed graceful, floriferous bushes; in most nurseries it is another species, *B. Japonica*, Hemsley, which passes under this name. The latter plant, too, has been a good deal confused in gardens, botanical and private, and numerous figures and descriptions of it have appeared in horticultural publications under the name of *B. curviflora*, *W. & A.*, an appellation which rightly belongs to quite a different plant. Bushes of *Deutzia gracilis*, six feet high, surpassed in size and vigor any we had previously seen; the season's shoots measured about four feet in length. Even when cultivated with every care in Britain this charming shrub is a pigmy compared with the Swiss specimens just mentioned. Beds of Indian Azaleas well set with buds gave promise of a fine show of flowers; large bushes of Moutan Pæonies made us "covet and desire other men's goods." *Viburnum Awafuki* (according to Lavallée's list identical with *V. odoratissimum*) excited our admiration. One bush formed a beautiful cone about fifteen feet high, and its large, leathery, glossy leaves of the darkest green made a fine foil for the cymes of coral-red fruits. The deliciously scented but inconspicuous blossoms of *Osmanthus fragrans* appealed strongly to the sense of smell and led to our discovering the plants. The Chinese are said to use the flowers for scenting tea. *Magnolia* (or rather *Michelia*) *fuscata* thrives well at Lugano—a mass of them in flower would be almost overpoweringly sweet. As an edging (and a capital one too) for shady walks and also as a sort of turfy covering to the bare ground under the dense shade of trees, *Fluggea Japonica* was successfully employed. This pretty little plant, with its dark green, grassy leaves and blue berries, is frequently called *Convallaria Japonica* in English nursery-lists, and also *Herbe aux turquoises* in French ones; there being not many things which thrive under these conditions, it seems desirable to call special attention to the merits of this plant.

Beau-Séjour, a dependence of the Hotel du Parc, has a still finer garden. There we noticed fine Arundinarias, twenty feet high, *Osmanthus fragrans*, eight feet high and as much through, and *Abelia rupestris*, of still larger size, literally covered with flowers. Cherry Laurels, trained into an arch, made a delightfully cool and shady approach along one side of the front garden from the gateway to the hotel. The more spacious grounds behind the hotel rise rapidly and many beautiful plants were noted. On a sunny wall fruiting Citrons were very attractive, also Oranges laden with fruit. In the border at the foot of the same wall was a large bush of a white flowered Abutilon and another of *Eupatorium odoratum*, which by Christmas will be a mass of scented white flower-heads. A huge tree of the Yulan, *Magnolia conspicua*, a fine tree of *M. macrophylla*, about forty feet in height, and a large *M. grandiflora*, were the most remarkable of the flowering trees. *Edgworthia chrysantha*, eight feet high by about ten feet through, profusely set with flowers, was conspicuous with its fine foliage; even under glass in England we cannot get this handsome Indian plant to thrive so well. *Benthamia fragifera* (the genus Benthamia is now merged by Bentham and Hooker into Cornus), another Himalayan shrub or small tree, of considerable beauty and interest, was as much at home here as in the warm, equable climate of Cornwall; the white-bracted flower-heads, like those of *Cornus florida* on a smaller scale, are showy, and the fruits, when ripe, are not unlike a strawberry. Camellias, Azaleas and Hydrangeas were represented by fine bushes, and *Chimonanthus fragrans* by the largest specimen we had ever seen. Photinias and the Loquat (*Eriobotrya Japonica*) were also good, as was also a very large plant of *Æsculus macrostachya*. *Elæagnus glabra*, a handsome Japanese evergreen, occurred as a climber; its long sarmentose shoots had wound themselves in among the branches of a cluster of Pines and had attained a height of about forty feet. In this part of the world this species makes one of the best of hedge plants.

American Vines made excellent arbors in the gardens of the cafés, hotels, etc., facing the lake, and the enormous crop of grapes borne by them could not fail to attract a good deal of attention among the cultivators in a district where Vines are everywhere grown. Here and there *Vitis vinifera* was used for shade, but for vigor and free-bearing qualities it compared most unfavorably with the American species; we learned, on inquiry, that these latter are now used extensively as stocks whereon to graft the more delicate Old World varieties, and that Phylloxera, the great curse of many European Vine-growing countries, is, by this means, to a considerable extent checked. In southern France we saw many establishments specially founded for the propagation and sale of American Vines.

At Ponte Tresa, where we leave the lake and take train to Luino, the railway is a narrow gauge adhesion line and commands magnificent views. For some distance the line follows the valley of the Tresa, a picturesque mountain torrent which here forms the boundary between Switzerland and Italy, and numbers of Italian custom-house officers, armed with carbines, patrolled the banks to prevent smuggling.

Kew. *George Nicholson.*

New or Little Known Plants.

A New Winter-blooming Begonia.

(*Begonia Triomphe de Lemoine.*)

THIS hybrid Begonia, of which a portrait of the original plant appears on page 557, is a novelty which has received much attention in Europe during the past year. It is very free flowering; it remains in flower for months, and it can be grown and flowered, apparently, with very little trouble. The habit of the plant, as our illustration shows, is excellent. The foliage is good, and the flowers are brilliant, recalling in color those of *Impatiens Sultani*.

We are indebted to Monsieur Lemoine, to whose skill in hybridizing we owe this handsome plant, for the following note regarding it, and for the photograph from which our illustration has been prepared.

"The new Begonia was obtained by impregnating the flowers of *Begonia Socotrana* during the winter of 1887–88 with pollen from another species, probably *B. Rœzlii*. The flowers of *B. Socotrana* had been fertilized by a number of species, but only a single cross was successful. Whether the pollen-parent was *B. Rœzlii* or not, the seedling in less than a year formed a mass of foliage sixteen inches high by twenty-eight inches in diameter. The hybrid may be described as follows:

"The stems are herbaceous, spreading, then erect and branching into numerous flowering branches. The leaves are large, coriaceous, orbicular, rather oblique; the margins slightly cinereous; six inches in diameter; those at the base of the stem much the largest. The flowers are produced in dichotomous cymes from the axils of the leaves. The male flowers, with four petals, measure one and a half inches across, and are rose-carmine in color, the buds being rather brighter carmine before the flowers expand. The female flowers are exceedingly rare. More than 600 flowers have been open on the plant at the same time, and it has been so covered with bloom as to resemble an immense bouquet.

"This Begonia budded the 1st of December, 1888, and the first flowers opened toward the middle of January. It was still covered with flowers in the month of May, when it was exhibited at the Paris Exhibition, and excited the admiration of every one who saw it.

"The plants should be plunged out-of-doors during the summer, and grown in a cool house during the autumn and winter." *V. Lemoine.*

Nancy.

Viburnum Sieboldii.

THIS handsome plant is a native of Japan, and was first described by Miquel from specimens gathered by Von Siebold in 1861.* Here, in cultivation, it is a stout shrub with spreading and finally with upright branches six or ten feet high and covered with smooth, ashy-gray bark. The leaves which appear early in May are, when fully grown, three and a half to five inches long by an inch and a half wide, and are borne on stout petioles, an inch and a half long; they are oval or obovate, sharply and remotely serrate towards the extremity only, with prominent midrib and primary veins. The lower surface, young shoots and buds are covered thickly with rusty-brown hairs, which are scattered also over the upper surface of the leaves. These at maturity are dark green and lustrous on the upper, and paler on the lower surface. The flowers with truncate calyx-limb and rotate corolla, are creamy white, and produced in flat, rather few-flowered cymes, terminating the branches. The fruit is black, half an inch long, with nearly triangular seeds conspicuously grooved on the back. The leaves when bruised and the wood possess, even more strongly, the peculiar disagreeable odor of our native *V. Lentago*. The flowers open here during the first week of June and the fruit ripens in September, at which time the plant is particularly ornamental, the stout branches of the abundant cymes having turned bright scarlet.

* *Viburnum Sieboldii*, Miquel *Prol. Flor. Jap.*, 155.—Maximowicz, *Mel. Biol.* x., 660.

Viburnum Sieboldii, according to Maximowicz, is not a rare plant in its native country, being found along streams at the foot of the mountains in dense woods. It was introduced into cultivation through Mr. S. B. Parsons of the Flushing Nurseries, to whom American gardens are indebted for so many fine Japanese plants. He sent it to the Arboretum several years ago, and has propagated it largely. It is perfectly hardy, flowers freely every year, and requires no special soil or care. *C. S. S.*

Plant Note.

Myrica rubra.

THIS is a comparatively newly discovered Japanese evergreen. It is a fruit tree, producing a highly flavored edible fruit, an inch in length by three-quarters of an inch in diameter, and in shape resembling a Blackberry. It is firm and contains a single seed of light weight. The fruit is dark red, almost black, but there is also a light rose colored variety the fruit of which is said to be sweeter than that of the one first mentioned, although it is not quite so large. The fruit ripens in Japan in the early part of July and can be used for many purposes. It is now used as a dessert, and is sometimes preserved. The extracted juice can be used as a beverage in its fresh state, and by slight fermentation produces a delicious wine. The foliage resembles that of a small leaved evergreen Magnolia, and is firm and leathery. The tree is ornamental, and its bark can be used to make a dye of a beautiful fawn color. It is not a very hardy tree, but will succeed well in a climate where the Fahrenheit thermometer does not fall below 20°, and where the summer is sufficiently hot.

I think it would thrive in the southern part of California, in all the southern states of the United States, in Central America, Mexico, Italy, Spain, and the southern part of France. It is questionable whether it would succeed in England, Germany, and in the northern states of America; certainly not without very adequate protection during the winter.

The propagation of *Myrica rubra* will be best accomplished through its seed, as the wood is too hard for cuttings.

The growth of the tree is rather slow, but if planted extensively it will pay well in time, as the trees not only will produce a delicious fruit in abundance, but will yield also a fine bark, which can be used for dyeing purposes, and a splendid timber showing a mottled grain better than the best Maple. The wood is light, tough and lasting, and is now used in Japan for fine cabinet work.

The seed should be sown in a light loamy soil, and placed on bottom heat if obtainable. The seed should be shaded with boards if possible, otherwise with a thick mulching of straw or other vegetable matter about a foot deep. Seeds must not be exposed to the sun's rays or to too much light.

Plants are at present very scarce, as the Japanese have not sufficiently appreciated the beauties of this tree to properly propagate it, but seeds can be collected.

Louis Boehmer, in The Garden.

Cultural Department.

Bromelias.

ANY one who is acquainted with the variety of form and beauty of colors which are characteristic of a large number of the *Bromeliaceæ* cannot easily comprehend the want of interest shown in these plants by horticulturists generally. Fashion reigns in horticulture as in many other things, and fashion having decided against Bromelias, they are scarcely known in gardens—always, of course, excepting that king of fruits, the Pine-apple. The late Professor Edward Morren, of Liege, who was not only the botanist of the order, but loved and cultivated the living plants as well, had the richest collection of species known. For their accommodation he had specially constructed houses, in which the requirements, real or supposed, of Bromelias were as carefully provided as is done for Orchids by their admirers now. I had the pleasure of seeing this collection when it was at its best, and it struck me then as being not only unique in character, but exceptional also in the interest and charm of the plants themselves. Huddled together, or, as is too often the case, placed in an out-of-the-way corner and neglected, Bromelias have a woeful aspect which is scarcely calculated to make people admire them. But when properly cultivated and arranged with taste and care, a collection of these plants forms a really fine feature.

In their vegetative characters, time of flowering, duration of the flowering season, as well as in the form, size and colors of their flowers, Bromelias are quite as varied as Orchids. There is, of course, a great difference between the two families, yet as plants of decorative value Bromelias are almost equal to Orchids. To persons who have learned to despise the former from having seen a few ill-grown examples, such as are often met with, this may sound like heresy. Unfortunately I cannot say, go to Liege and be converted, as when Professor Morren died the plants were sold, a large number of them having been purchased for Kew. But there are good collections of Bromelias in many continental gardens; Makoy & Co., of Liege, have an exceptionally large and rich nursery collection. In addition, they have also a private collection of these plants, kept solely for their own enjoyment, and not for trade purposes, a fact which speaks for itself. At Kew the collection of Bromelias is the richest by far ever seen in England. There are always a good many kinds in flower, and it is remarkable how many visitors take an interest in and admire them. Still, fashion rules. No one has taken a fancy to Bromelias and horticulture loses in consequence. Fifty years ago hardly any one grew Orchids. It was not until the Duke of Devonshire, on seeing *Oncidium Papilio* in flower at Chiswick, was so struck with its beauty that he determined to build houses for and collect them, that the cultivation of Orchids received any attention from amateurs. The Duke set the fashion, which, once started, grew rapidly. Orchids deserve all their popularity; Bromelias deserve a great deal more than they enjoy.

Mr. John Gilbert Baker, of the Herbarium Kew, has been for many years identified with this family. Whilst Morren lived Mr. Baker was content to be thought second to him in a knowledge of Bromelias. Now, however, Baker is the only acknowledged authority, and his title to be considered so is unmistakably shown in the "Handbook of Bromeliaceæ" which he has just published.* The book is uniform with those already published by him on the "Fern-Allies" and the "Amaryllideæ." The value of the latter to horticulturists is considerable, so many of the genera of this order being largely represented in gardens, and, as is usually the case, their history and nomenclature were all in confusion until Mr. Baker's book made all things plain. It is very agreeable news to bulb fanciers to hear that Mr. Baker will soon issue a similar handbook on *Iridæ*. The allied order, *Liliaceæ*, he dealt with some years ago in the *Journal of the Linnæan Society*. In the interests of horticulture an appeal might be made to Mr. Baker to give us a handbook of *Liliaceæ*, uniform with that on the Amaryllis order. The *Linnæan Journal* is not easily accessible to gardeners. At any rate some of the principal horticultural genera of *Liliaceæ* might be dealt with in this way. Gratitude displays itself by asking for more!

The Bromelia book contains descriptions of over 800 species, or more than double the number estimated by Bentham as recently as 1883, and this number will, Mr. Baker thinks, fall far short of what will ultimately be found.

The number of genera admitted is thirty-one. These are divided into three tribes. (1.) *Bromeliæ;* ovary inferior, fruit indehiscent. (2.) *Pitcairnieæ;* fruit a three-valved capsule, seeds not funicled. (3.) *Tillandsieæ;* fruit a three-valved capsule, superior, seeds funicled. A considerable proportion of the genera are unrepresented in gardens, having apparently small claims to beauty. Of the genera cultivated or worth cultivating, the following are the largest in number of species and the most striking in floral characters:

KARATUS.—(Thirty-six species.) These are mostly robust plants with long ensiform, channeled, prickly edged leaves; flowers arranged in a large dense globose head and surrounded by bracts and leaves which are often very brilliant in color. In large tropical houses they are most effective. At Kew when in flower they attract great attention, and even when not in bloom they are ornamental.

CRYPTANTHUS.—(Twelve species.) These are usually remarkable for their prettily variegated leaves. *C. bivittatus*, *C. Makoyanus*, *C. Lubbersianus*, *C. zonatus* and *C. Bueckeri* are delightful little foliage plants, easily cultivated and always attractive. The flowers of this genus are white and not ornamental.

Fig. 144.—Begonia Triomphe de Lemoine.—See page 556.

*George Bell & Sons, York Street, Covent Garden. Price, five shillings.

ÆCHMEA.—(One hundred and twenty-eight species.) Over thirty of these are grown at Kew, some being of large size, others small. The flowers are sometimes in a dense head, which nestles down in the middle of the rosette of leaves; in these the leaves are most attractive, the upper ones being almost wholly deep crimson or purple or spotted. Other species have a long paniculate inflorescence, with red leaves and bracts scattered along it. They are, as a rule, very ornamental.

BILLBERGIA.—(Thirty-six species.) This genus is best of all in a garden sense. The leaves are usually folded, forming a sort of vase, and in some of the species they are prettily variegated. The inflorescence is in the form of a dense or lax spike, or sometimes a large branching panicle. It is clothed with large boat-shaped, brilliantly colored bracts, especially towards the top. The flowers are tubular, conspicuous, nearly always bright colored. Every one of the species deserves to rank with first-class flowering stove plants.

PITCAIRNEA.—(One hundred and thirty species.) This genus, also, is rich in good flowering plants. The leaves and habit are variable, but as a rule they are grassy, graceful, bright green, and in a large tuft. The flowers are on erect or arching panicles; they are numerous, tubular, large enough to make a display, and nearly always very bright in color, namely, scarlet, crimson, yellow or blue. Several species previously known as Puyas are included here, such as *P. cærulea*, a truly beautiful plant, with flowers on a large, stout, erect panicle, each flower almost as large as a Lapageria and colored a rich peacock blue. This and several others Mr. Baker has seen fit to call Pitcairneas.

PUYA.—(Fourteen species.) The giants of the order belong to this genus. The leaves are long, rigid, armed with sharp teeth, and the flowers, which are usually two inches, or even more, long, are produced in profusion on very stout, erect spikes. One described has flower stems thirty-three and one-half feet high, the flowers disposed in panicles and reckoned at not less than 8,000! There are some magnificent life-size paintings of several Puyas in the North gallery at Kew.

CARAGUATA.—(Thirty-nine species.) Handsome, stemless plants, Tillandsia-like in habit and foliage, the two genera differing only in the former having a gamopetalous corolla. The flowers are on erect spikes, sometimes in a globose head, crowned with a tuft of usually bright colored small leaves. The lower part of the spike is often clothed with bright scarlet bract-leaves. The species in cultivation are very ornamental. *C. lingulata*, *C. sanguinea*, *C. Tahnii* and *C. musaica* are fairly well known among stove plants.

TILLANDSIA.—(Three hundred and twenty-three species.) This genus now includes Vriesia. It is very variable in size and beauty, but a large number of handsome garden plants are among those already introduced to cultivation. The leaves are unarmed, in some species prettily varied or variegated, *i. e.*, *T. hieroglyphica*, *T. fenestralis*, *T. tessellata;* in others they are of a uniform brown or pale plum color, *i. e.*, *T. amethystina*, *T. angustifolia*. The flowers are brilliant in color in all the Vriesia section, bright yellow and scarlet or crimson predominating. In *T. Lindeni* and its variety Vira they are of quite exceptional beauty. *T. regina* is of very large proportions, almost as large as a Century plant.

Enough, I think, has been said to show that the order is all that is claimed for it here, and Mr. Baker's book is exactly what was wanted to give a correct idea of the horticultural merit of many of the Bromeliads at present known.

Kew. *W. Watson.*

Figs in the South.

THE Fig succeeds on any kind of land in the South, clay or sand, high or low, hummock or Pine, and requires little or no cultivation. It comes early into bearing, only two years from the cutting, is easy of propagation, and may be trained to tree shape and growth by allowing only one shoot or stem to the root. The chief obstacle to drying the fruit in the sun in Florida is that the ripening occurs during the periodic wet season. It begins to ripen about the first of July for the general crop, and fruit has been obtained from the cutting the first year.

The varieties that have given the best satisfaction in this state are the White Adriatic and White Smyrna, which are very choice for drying or table use; Celestial, very sweet, small and a prolific bearer; Black Ischia, a bluish black variety of good quality, and the Brown Turkey, another prolific bearer.

The situations best suited for the Fig-orchard are those which have a northern exposure, which will serve as a sort of protection from the cold. If a southern exposure is selected, the young trees will take on such a rapid growth during winter that a sudden frost will kill them while in the sappy state. A northern exposure keeps back this growth, and makes the young shoots strong enough to resist the ordinary attacks of frost. As we come farther north, in Georgia and the Carolinas, where the frosts are heavier, this precaution is needed all the more. The frost does not easily kill the trees, but it sets them back in their growth, and prevents the maturing of good crops of fruit.

The fig is destined to become an important fruit in the South, and when better methods of drying them for the market are observed the imported fruit will be driven out of the market as completely as Mediterranean oranges, lemons and other tropical fruits have been in the past. Fig culture for profit has not, so far, obtained much success in this country, but many are now going into the business for money. Experiments were made last year in several parts of the south in placing green figs upon the northern markets. The success of the enterprises seems to have justified the growers in their expectations of a profitable business, and larger groves have been planted since.

The figs are sold in any kind of condition, often being put up in old pickle jars or bottles of different sizes. This is very different from the nicely packed, pressed and dried fruit that comes from the Mediterranean, with the trade-mark and label of the growers marked fancifully on the box covers. In order to compete successfully with the imported fruit, it is necessary to have the fruit properly prepared, and neatly put up, according to rule, in a regular preserving factory. Fresh figs could also be sent north as well as the dried fruit, and there is no doubt but the demand for them will be great.

Fig-trees do the best when planted in rows about fifteen feet apart each way. The fields are marked off in squares, and holes dug for the cuttings, or young trees, to be put in. The cuttings consist of twigs of last year's wood, which are buried in the ground about six inches from the surface. The cuttings can be taken off and planted in a trench until early spring, when the Fig trees are beginning to put out their leaves. When the trees get very large every alternate one can be taken out, often with the best results. There is little cultivation needed after the trees once get a start. *George B. Walsh.*

New York.

The Flower-Garden in Autumn.

THE time to protect the flower borders has now arrived, and preparation should at once be made for this work before the advent of severe frost, for although this may be delayed for some weeks, yet everything should be ready for it. We often observe elaborate directions about "cleaning up," but some gardeners carry their worship of the idol of cleanliness too far. We should never forget the necessity of leaving on the plants just that natural form of protection which they duly provide for themselves—that is, dead leaves and flower stalks. An example or two will illustrate my meaning, and the rest can be left to the judgment. Many gardeners, for the sake of appearance, in fall cut off all ripened foliage from such plants as *Iris lævigata*. Now, we have proved to our satisfaction that this is highly injurious, as frost and melted snow make use of the opportunity to get down into the very hearts of the plants, and the inevitable result is that next season one waits in vain for the reappearance in their accustomed vigor of the young shoots, and when they do come they are liable during the earlier stages of their growth to be injured by late spring frosts if deprived of their natural protection. *Eulalia Japonica*, and its varieties, are plants that are generally regarded as of doubtful hardiness, and we confess to having lifted them every fall during the past two seasons. However, we have taken notice of a large circular bed of this Grass at a neighboring railroad-station which thrives amazingly year after year, by no means on account of the attention given to it, but simply because it is left alone until the time for tidying up in spring, and then the tops are cut off. Meanwhile some of our own plants, left out, with their tops cut off and carefully covered with soil, were completely killed, not one surviving. Another instance of mistaken zeal is the removal of the dead flowering stems of Lilies. These, of all other plants, are susceptible to injury from moisture in winter, and when the stems are removed an excellent passage for water is made straight to the centre of the bulbs, and decay is the inevitable result. Nature has tried to enforce this lesson upon us by the tenacity with which the perfectly lifeless stems cling to the living bulbs until the young shoots are prepared to take their place in spring, after which the old stems are easily removed. Many other instances might be cited, but the judgment of the cultivator may be relied upon to furnish them for himself. The

object in view while writing this is to point out that, while "cleanliness is next to godliness," it is by no means the best practice to remove every vestige of dead leaves and flower stems from the flower-garden while protecting the flowers against the ravages of a winter's frost. *E. O. Orpet.*
Passaic, N. J.

Palms for Small Places.

WHEREVER a green-house, if only a small one, is found in connection with an American garden a Latania or two at least is likely to be found, and yet there seems, in some quarters, a lack of positive knowledge as to the most suitable species and varieties of Palms to be grown in places having only limited accommodations. In the minds of many persons, a Palm is always associated with spacious and lofty conservatories, and although it is true that ample room is needed for the best development of many species, this is by no means a general rule.

Perhaps, therefore, it will be worth while to invite attention to a few of the many species well adapted to more modest quarters—that is, to those of comparatively dwarf habit and of easy cultivation.

At the head of the list of miniature Palms should be placed *Cocos Weddeliana*, the dwarf Cocoanut, one of the most graceful of Palms, its delicate, pinnate leaves of dark green, with their glaucous under surfaces, making it one of the most ornamental and effective plants in cultivation, either for the green-house or on the dinner-table. This plant is a native of South America, and grows best in a stove temperature. It does not require heavy watering at the root, at least during the winter, but enjoys copious syringing overhead in bright weather.

Next in merit to this, perhaps, on the ground of general utility, though of very different appearance, are the different kinds of Rhapis, an elegant and very distinct family of Palms, from Japan and China. Palms of this genus are dwarf growers, of bushy habit, throwing up numerous cane-like stems, well clothed with shining, dark green, flabellate leaves, which are very tough in texture and capable of withstanding much hard usage.

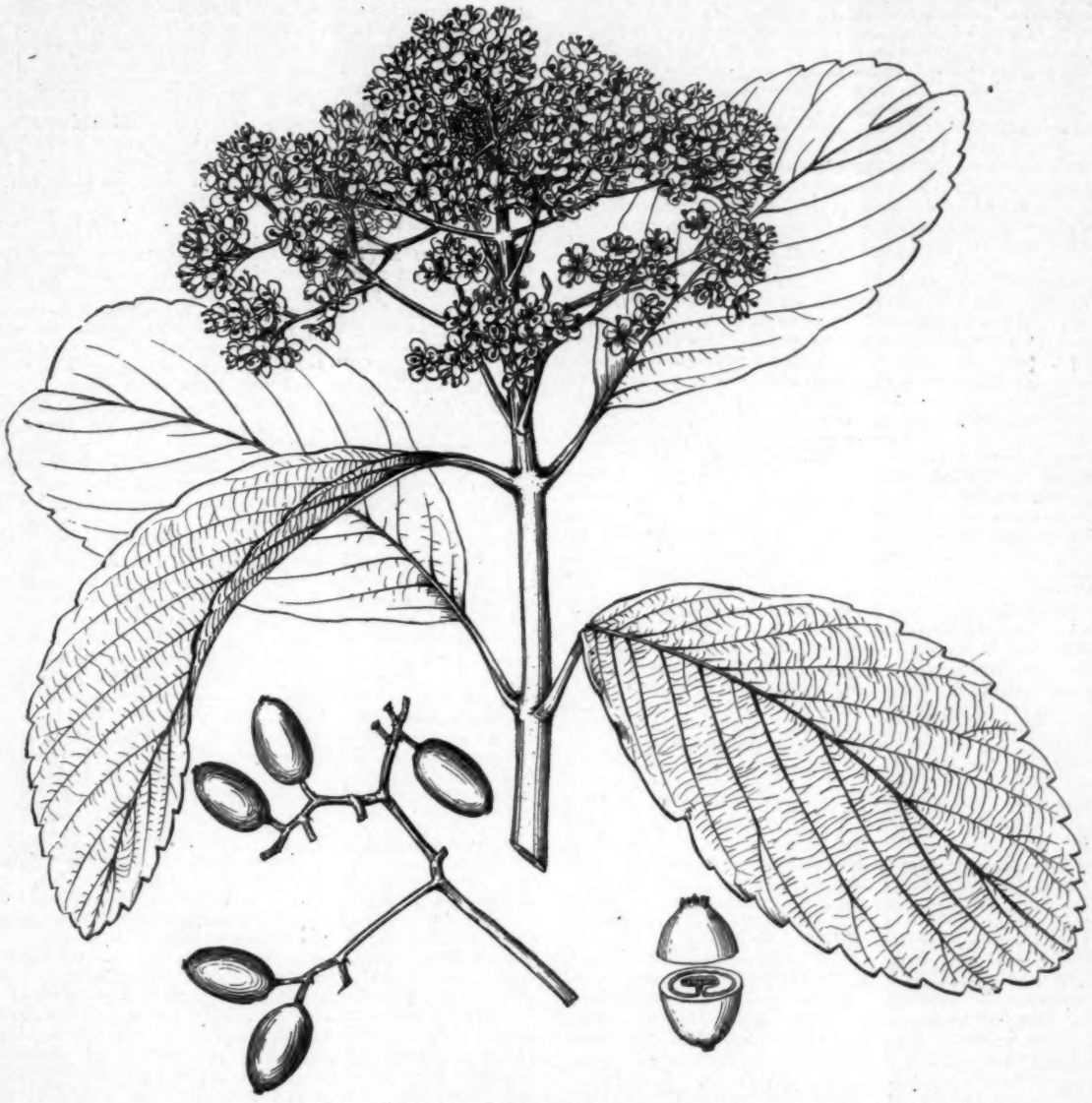

Fig. 145.—Viburnum Sieboldii.—See page 556.

R. flabelliformis is adapted to a variety of uses, and is equally effective for house-decoration, for the conservatory or for sub-tropical bedding in the summer, and it will thrive under green-house treatment. A prettily variegated form of this is also in cultivation, but is more rare and also more delicate, and is therefore not to be recommended for general use. *R. humilis* is also an excellent variety, somewhat similar in general appearance to *R. flabelliformis*, but having longer leaflets, which are gracefully arched.

Among the Fan Palms, probably the hardiest and most

easily procured (with the exception of *Livistonia Chinensis*) of the dwarf growers are found among the Chamærops, a genus widely distributed. Probably the best known of them are *C. Fortunei* and *C. humilis*, the latter being a native of southern Europe; and although it has been known to reach a height of twenty feet, yet it may be considered a dwarf plant, from the fact that it takes a number of years before it forms any trunk, and its growth is always slow.

Another handsome plant well suited to our purpose is *Livistonia australis*, formerly known as *Corypha australis*, a sturdy grower, and capable of bearing great changes of atmosphere without much injury. This also belongs to the Fan-leaved section, and, though of slow growth, it is highly ornamental, and will flourish in a temperature of fifty degrees, and is useful as an out-door plant in the summer.

Where a stove temperature can be afforded them, some of the Calamus will be found a welcome addition to the collection, being very graceful in habit and comparatively rapid in growth. They are mostly natives of the East Indies, and are of slender form, bearing long, light green, pinnate leaves, the foot-stalks of which are all more or less clothed with long brown or black spines. Among the most beautiful varieties of this genus are *C. palembanicus*, *C. adspersus* and *C. hystrix*, and a compost of two-thirds sandy loam to one of peat will be found a good one for them. Calamus should be given an abundant supply of water and a moist atmosphere, as when allowed to become too dry they are liable to an attack of red spider.

The Chamædoreas are another useful class of small growing Palms, some varieties of which are very well known, being easy to grow and not very particular as to their surroundings, provided they receive plenty of water and a reasonable degree of heat. They have been mostly introduced from Mexico and Central America, and have pinnate, or occasionally entire leaves, light green in color. An interesting feature of most of the varieties of this species are the flower-spikes, which are freely-produced from the axils of the leaves even in small plants, the inflorescence being usually either orange or red. Probably the best known variety of the Chamædoreas is *C. elegans*, with its graceful pinnate leaves from two to four feet long. *C. Ernesti-Augusti* is one of the best representatives of the entire-leaved section of these plants. It has handsome foliage about two to three feet in length, deeply cut at the apex into two sharp pointed lobes. Other notably good varieties of this genus are *C. graminifolius*, *C. Sartorii* and *C. Wendlandii*.

Of course, such a general favorite as *Areca lutescens* is indispensable in any collection of Palms, and is too well known to need further reference in this connection.

In this brief enumeration of Palms suitable for small establishments, no attempt has been made to offer explicit directions in regard to treatment; but it may be said that no Palm should be allowed to become very dry at the root at any period of its growth, and with reasonable care in ventilating, heating and shading in summer any of the sorts mentioned may be kept in fair condition.

Holmesburg, Pa. *W. H. Taplin.*

Orchid Notes.

Odontoglossum grande.—Dr. Lindley, when he described this fine Odontoglossum, for the first time, in the *Botanical Register*, would probably have found it difficult to find a more appropriate specific name than "grande" for it—a name to which it does full justice by the great size and conspicuous beauty of its flowers, which mark it as one of the very finest species of the group to which it belongs. Nowadays good specimens may be obtained at a very modest price, which appears a mere trifle when compared with the enormous sums which were willingly paid for this plant several years ago, when the culture of Orchids was a rage with the most wealthy only.

O. grande may be said to celebrate its jubilee of cultivation this year, for it was just fifty years ago that it was first introduced by Mr. George Ure Skinner from the shady ravines of Guatemala. It seems to be confined to this region, notwithstanding the fact that the traveler, Warscewicz, sent a specimen to Professor Reichenbach labeled as having been found in Costa Rica.

The chief characteristics of this fine species are its ovoid, compressed, dull green pseudo-bulbs, which, when young, are encased in strong greenish sheaths. Generally two oblong-lanceolate leaves, about six inches long, are borne on the summit of each pseudo-bulb. They are grayish green above, paler beneath, often copiously spotted with brown and distinctly traversed by curvilinear veins. The erect spikes, bearing from five to eight flowers, which often measure seven inches across, are produced when the growth is about half over. The oblong, acute sepals are bright yellow, transversely barred with glossy cinnamon-brown, and the broader petals are of deep, shiny cinnamon-brown, except at the tips and margins, which are bright yellow. The sub-orbicular lip is, as a rule, whitish, and more or less densely covered with brownish red blotches, while the bifurcated crest is rich orange-yellow, blotched with cinnamon, and the bright yellow column is furnished with a rather large pubescent wing on each side. Some hundreds of plants have been in flower here since the beginning of September, and now, in the first days of November, there are still several in bloom.

O. grande is not hard to grow. In its native country it inhabits damp, shady places where the temperature ranges from sixty to seventy degrees Fahr. during the summer and a minimum of about twenty degrees lower in the winter. The plants should, therefore, be grown in a house whose summer temperature conforms as near as possible to that of their natural condition. When growing, water may be freely given, but when the plants have finished both growing and flowering—that is, about November—the supply should be much decreased and the plants allowed to rest for about three months with as little water as possible. The usual compost of rough peat and sphagnum in conjunction with well drained pots seem to be most suitable for this species.

St. Albans, England. *John Weathers.*

Arachnanthes (*Vanda*) *Cathcartii.*—This interesting Orchid is very seldom seen in bloom, and is by no means plentiful. The growth is peculiar, scrambling, with a slender, woody stem, clothed with distichous, pale green, fleshy leaves, about seven inches long and two broad. The pendent racemes springing from the side of the stem bear four or five flowers about three inches across. In color these are white on the outside, while the interior is yellow, banded with reddish brown. The lip is divided into three lobes, the two lateral ones being white, streaked with red at the base, and the middle lobe whitish, with a yellow, crenate, incurved border. *A. Cathcartii* was introduced from the Himalayas in 1864, and grows freely in the East India house with the usual Vanda treatment, but should have a good exposure to sunlight with accompanying dryness after growth is finished to induce it to flower freely.

Saccolabium bigibbum, a rare and attractive little plant, is now flowering freely here. Its greatest disadvantage is the extreme shortness of its raceme, which seldom exceeds two inches, and, when more than a dozen fair sized flowers are crowded in this short space, many of them remain hidden between the leaves. The flowers are very pretty, with yellow sepals and petals, and a saccate, triangular white lip, with beautifully fringed edges and a yellow centre. It is a compact growing plant, with bright green leathery leaves about six inches long, growing and flowering very freely when accorded the usual warm-house treatment. It lasts a long time in bloom, and should be grown in a basket, to show its flowers to full advantage.

Kenwood, N. Y. *F. Goldring.*

Melothria punctata.—This is a delicate and graceful plant of the Cucumber family, sometimes known as *Bryonia punctata*, and in gardens more frequently as *Pilogyne suavis*. It was discovered a century ago at the Cape of Good Hope, and is now known to be widely distributed in Africa as far north as Abyssinia. I saw it this year used with excellent effect covering the tubs of large standard plants in Herr Borsig's beautiful city garden in Berlin; and once I have seen it used to form the delicate festoons of living green the Germans are so fond of carrying along the borders of their garden walks. But it is evidently much less used now in Germany than it was twenty or thirty years ago, for a correspondent of *The Gardeners' Chronicle*, writing in 1861 about *Pilogyne suavis*, says: "It is universally employed in Germany and Belgium for hiding the bare stems of standard Roses and making little festoons between them, and for any similar purpose. As it is a very neat and pretty plant, not inclined to become a rampant grower, it is particularly adapted for this purpose; and it has become so great a favorite there that it is found in every garden.

"The treatment that *Pilogyne* requires is as simple as could well be desired. In autumn a few cuttings are struck and kept in store pots in a warm green-house through the winter. In the spring they are potted off. If there is not a sufficient number, a stock can soon be obtained, for they strike as readily as Verbenas; they are hardened off with the bedding plants, and as soon as the weather permits planted wherever they may be required. They need but little further

attention; a string being placed where the festoon is required, the plants attach themselves to it and very soon produce a rope of verdure. This plant has yet another good quality to recommend it; in the evening, or after a shower of rain, it emits a very pleasant, faint, musk-like perfume."

The leaves are rough to the touch on the upper surface, five-lobed, one or one and a half inches in diameter, and bright green. The flowers are small and quite inconspicuous, and as only the male plant is known, apparently, in cultivation, it never produces fruit. It is for its foliage, therefore, that this Melothria is used, and it is certainly well suited for making a temporary covering over any unsightly object in the garden. If it is not known in this country, it might be introduced advantageously from Germany. *S.*

Begonia Socotrana.—Botanically, this is one of the most interesting Begonias known. It was discovered in Socotra in 1880 by Dr. Balfour, who sent tubers of it to Kew, where it flowered the year following. Sir Joseph Hooker, when figuring it in the *Botanical Magazine*, said that "Socotra was one of the last places in the world where a Begonia would have been expected to occur." Horticulturally, it has proved exceptionally valuable, partly from its own merits as a winter-flowering species with remarkable foliage, and handsome, deep rose, large flowers, but chiefly as the parent of a race of Begonias which promise to be as useful for in-door gardening in winter as the progeny of the Andean tuberous species are in summer. I allude, of course, to the several hybrids raised by Messrs. Veitch, and named John Heal, Adonis and Winter Gem. These grow about a foot high, have bright green foliage and rosy crimson flowers, large and numerous enough to make a rich glow in the stove in winter. The most remarkable character in the flowers of these plants is that of keeping fresh several weeks in water, or if left on the plants they last a month or more before withering on the stalks. They do not fall as all other Begonia flowers do. *B. Socotrana* is represented by a large group of plants in the Begonia house at Kew, and it will be attractive until Christmas. The leaves are large, peltate, cupped, shining green, and they spring almost upright from a short, fleshy stem. This plant and its offspring go to rest in spring and start into growth again about July. They should be started and grown in a warm, sunny green-house till the beginning of October, when they require a stove temperature.

Jasminum gracillimum.—This plant ought to be in every collection of stove-plants. It is by far the finest of all the tropical Jasmines, although *J. pubescens*, an old garden plant and a near ally of *J. gracillimum*, is not much its inferior. When first introduced it was grown as a dwarf pot plant, in which form the Messrs. Veitch exhibited it for the first time in 1881. Now, however, it is known to be best when treated as a climber, and when grown against pillars or along rafters in stoves it is seen to great advantage. At Kew it is trained on pillars, and its long shoots hang gracefully all round, each one bearing a large terminal cluster of beautiful white, star-like flowers, one and a quarter inches across and sweet scented. As a basket plant this species also produces a fine effect. It is a native of north Borneo. *W.*

American-grown Cauliflower Seed.—Last spring two packets of Cauliflower seed, grown at Fidalgo, Washington, were sent to this station for trial. The seed was of the Erfurt and Snowball varieties. It was sown in the open ground on May 14th. In due time the plants were transplanted to the garden, and they have headed better than plants of the same varieties grown in former years from imported seed, and that, too, in spite of an extremely dry autumn. Every plant has either formed a fair-sized head or it gives promise of doing so in a few days. The heads are not large, but that is not surprising, as we have had almost no rain for the past two months. They are neatly formed, and when tied early, to exclude the bright sunshine, are white and of excellent flavor. If the seeds planted in this trial are fair samples of the Cauliflower seed that may be produced in the Puget's Sound region, there are good reasons for believing that we shall soon be able to grow all our own seed of this delicious vegetable.

Two New Squashes.—Last spring Messrs. Vilmorin, Andrieux & Co., of Paris, advertised in their catalogues two new Squashes, under the names Very Early Prolific (*Courge prolifique très hâtive*) and Missions Squash (*Courge des missions*). Like most of the varieties of the Cucurbit family developed in France, these do not appear to have qualities that would commend them in this country. The first is an early Squash, similar to our Dunlap's Marrow and Orange Marrow, but the fruits are smaller in size and the plants less productive. The second is a winter Squash, the color of the Perfect Gem, or a shade more grayish, and of a form resembling that of our Bay State. The quality is very good, but in our test the plants were quite unproductive, and the fruits were formed so late that few of them attained their size before frost.

Wisconsin Experiment Station. *F. S. Goff.*

Correspondence.

Growing Timber Without Knots.

To the Editor of GARDEN AND FOREST:

Sir.—What is the best treatment of Pine-trees in a forest when the lower branches on the trunks are dying? The trees are wanted for timber.

Duluth, Minn. *S.*

Your correspondent fails to state whether he has in view particular conditions, to which the information is to be applied, and as a doctor can only prescribe after diagnosis of the special case, the answer can only be general.

To grow timber free of knots, and that means a shaft free from branches, the best plan is to provide for it from the start by keeping the growth densely crowded. Close planting is recommended largely for this reason. The physiological explanation of the effect of dense growth in preventing the formation of branches, or, if formed, in soon killing them, lies in this, that leaves, and dependent upon their activity wood-growth, require for their development and life a certain amount of light. Failing to receive this, no buds are developed, and where the branches that have developed are excluded from the light, or receive insufficient light, they lose first their foliage and then die a natural death. This is the forester's natural method of growing clear timber—by timely management.

As knife and medicine become necessary, where the rules of hygiene have been neglected, so the pruning knife and saw are called into requisition to fit trees for a purpose, for which they were not managed in time. The system of pruning the branches for the purpose of producing clear timber has not, as a rule, proved satisfactory in France, where it was most strenuously advocated and practiced. Dead and dry branches can usually be removed without danger to the tree. In fact, their timely removal by a sharp cut close to the trunk reduces the danger of rot, which is apt to start in the stubs of broken branches. The removal of living or partly dead branches is practiced at the risk of inducing decay, unless done with great care. The open, unprotected wound first dries, then splits open and gapes, water enters, with the spores of fungi, which produce rot, and the disease may spread and ruin the whole shaft. If the tree is in vigorous growth, with a fully developed crown, on a favorable site, it will heal a wound made by the amputation of a branch not thicker than three or four inches by "walling over." Where the conditions are less favorable, it becomes necessary to guard against decay by covering the wound.

To avoid, then, the occurrence of knots in future sawlogs, and to produce trunks free from branches, these must be shaded out when young. Since, however, a full development of the crown is necessary for the full and normal development of the trunk—the trunk being a product of the crown and its mass proportional to it—it is evident that the right time for bringing the growth out of the dense position of its early years to the roomy position which insures proper development of crown and trunk, is an important consideration for the grower of timber. This time occurs when the maximum height-growth has been attained; that is to say, when the trunk proper has grown to nearly its full length and now requires filling out—diameter development—under the full activity of the crown.

According to species and character of site this period varies, and accordingly also the time of first thinning, its recurrence and degree require the judgment of a forester and cannot be briefly formulated.

Thinning out takes place in a dense forest growth sooner or later, more rapidly or more slowly, according to the

species which form it, the soil-conditions and several other factors. Some species, like the Beech, Fir and Spruce, have the capacity to develop their leaves, and vegetate with very little light at their command; others, like Birches, Poplars, Ashes, require much light, and therefore thin out very soon under their own shade, exerted by their crown. The former class, which may be called shade-enduring timbers, can develop in about fifty to seventy-five per cent. of the room which the latter, the light-needing, require for full development. This means that fewer individuals of the latter are allowed to live on a given area than of the former, and the natural cleaning of dead branches takes place much more rapidly, and earlier.

On the better qualities of soil this struggle for existence is brought to a close much sooner than on poorer land and in higher altitudes, where the energy of growth is less vigorous. Therefore, we can say, summarily, that in a normal, natural forest growth, the average room occupied per tree is larger in proportion as the growth is older, the species more light-needing, the soil conditions better and the locality less elevated.

The treatise on pruning forest and ornamental trees, by Des Cars, translated by Professor Sargent, contains all information necessary as to the methods of pruning. Where walling over of the wound is expected, it may be said that if the pruning is done in July rather than in the autumn the healing process will begin the first season, and to some extent the danger of frost to the wound will be avoided. The main point is to cut with a fine-toothed saw as close as possible to the trunk, taking care to make a smooth, uniform cut, and to avoid loosening the bark; this necessitates, in heavy branches, two cuts, the first lopping the branch at a distance from the trunk to relieve the weight. Conifers usually furnish the water-proof coat by the exudation of resin. Deciduous trees require artificial protection by means of coal-tar thinned with turpentine and applied with a brush.

How far pruning may be depended upon to produce timber free from knots is still an open question, and depends on circumstances often beyond our control

Washington, D. C. *B. E. Fernow.*

Ocneria dispar.

To the Editor of Garden and Forest:

Sir.—In the Boston *Evening Transcript* of October 31st there is an article headed "Save the Trees" giving some account of this European moth, which has become seriously abundant at Medford, Massachusetts. The writer of the article states that the insects were "first noticed three or four years ago. . . . For a while the extent of their work was so limited that not much attention was paid to them, but early last summer their numbers had so increased that much damage was caused."

Although there can be no doubt that the insect will commit serious ravages, if unchecked in any way, the prospect that "a great danger threatens the country unless prompt and effective measures are taken to stamp out the pest" seems remote, when it is known that over twenty years have elapsed since it was accidentally introduced by M. L. Trouvelot, a French naturalist, who made experiments in silk raising near Medford, but whose efforts in this direction were unsuccessful, partly because he also unintentionally imported one of the diseases so fatal to the silk worm. This Ocneria (also known under the generic names Hypogymna and Liparis) is nearly allied to the troublesome tent-caterpillar (Clisiocampa), and to the Orgyia, which is often so destructive to the foliage of many of our shade trees.

The males and females of the species differ strikingly. The former are small bodied, with dark reddish brown wings, which expand about an inch and a half, and the large bodied females have white or greenish white wings, with black and brown markings. They expand about two and one-half inches.

The egg masses are deposited on the limbs of the plants upon which the caterpillars feed. When fully grown the latter are larger than our common tent-caterpillar (Clisiocampa), and are dark in color and sparingly covered with small tufts of long hairs. They are almost omnivorous in their feeding habits and in Europe they eat the foliage of such differing plants as the Apple, Peach, Linden, Azalea, Oak, Larch, Juniper and White Pine.

In the article in the *Transcript* it is stated that the State Board of Agriculture "intends to ask the Legislature for an appropriation sufficient to meet the emergency," and it seems to be expected that a liberal appropriation will exterminate the pest.

Professor Fernald, the Entomologist of the Hatch Experiment Station, is also said to be preparing circulars, illustrated by plates, which "will be sent to all the residents of Medford in order that they may watch for the re-appearance of the pest and co-operate in the work of stamping it out." The outcome of these efforts will be very interesting.

It is, at least, very improbable that every specimen in such a considerable area (about one and a half square miles, according to the article quoted) can be destroyed. The insect has probably come to stay, and, ultimately, the best way to keep it in check, outside of the artificial remedies, may be the importation of the parasites and natural enemies to which it is liable in Europe.

European specimens of the insect in all its stages have been for many years on exhibition at the Zoölogical Museum, at Cambridge, Massachusetts. One of the earliest notices of its introduction occurs in the *American Entomologist*, vol. ii., p. 111 (February, 1870), and the case is also mentioned in Professor Riley's report on the insects of Missouri for the same year.

Cambridge. *Quis.*

Exhibitions.

The Chrysanthemum Show at Philadelphia.

GARDENERS complain that this has been a trying year for Chrysanthemums, and yet the collection of plants in Horticultural Hall last week was one of the largest ever shown there, and, beyond question, the best in quality. Not only were the plants exceptionally good, but they were well arranged and displayed. They were not placed in a solid mass, but were separated into two sections by a broad wall of green which ran lengthwise through the middle of the hall. This stretch of green began near the entrance with a remarkable collection of Ferns on a low table, beyond which towered a superb *Cibotium regale*. Then came tall Palms, with branches overarching a mound of rich foliage, while further on, the low tables, covered with Marantas, Dracænas and plants of this class, stretched toward the stage. The bank of Palms across the stage-front, like the Ferns, from the gardens of Mr. A. J. Drexel, were all good examples of choice kinds like *Pritchardia grandis* and *Livistonia Chinensis aurea*. Around the whole the walls were hung with evergreen and autumn leaves, and the galleries were wreathed and festooned with garlands of the same.

All this made an admirable frame and setting for the long double rows of flowering plants on either side of the hall. These were in great variety, including the best known of the old kinds of established reputation and a strong showing of later introductions. Among the plants and cut blooms were examples of some forty kinds which had never been exhibited before. It is worth putting on record, too, that of the plants and flowers, both old and new, which attracted most attention, at least one out of every four, and perhaps a still larger proportion, were originated by Mr. W. K. Harris. Beyond doubt the seedling Chrysanthemums of the first quality which, as the product of Mr. Harris' skill, now enrich our gardens, far outnumber those originated by any other American.

Among the plants the group of twelve, which took the prize for the best collection of that number, displayed wonderful cultural skill. These plants are naturally of different habit and time of blooming, and yet they were all at their very best on this special occasion, and while they had not been tortured into any formal shapes, they were surprisingly even in size and proportion—that is, about three feet high and five feet across, with a fully developed flower, erect on every branchlet. There were better single plants in the room than any individual of this dozen, but every one was a striking specimen, and all were so uniformly vigorous and floriferous that one looking down upon them would find it difficult to point out in what particular any one of them was more satisfactorily grown than another. As a matter for future reference, we give the names of this prize list: Mrs. A. Blanc, Gold, Mrs. Irving Clarke, Miss May Wheeler, Frank Wilcox, Mrs. Frank Thompson, Robert Crawford, Robert Bottomly, Puritan, Grandiflorum, Bride, and W. H. Lincoln. Of these all but three are American seedlings. They were exhibited by James Verner, gardener to A. J. Drexel. Of other plants, one of the most interesting was a specimen of Mrs. William Bowen, carrying about a hundred blooms, with florets of an intense crimson within and bronze reverse. Very striking, too, was a plant of Mrs. Irving Clarke,

with semi-globular flowers of immense size and a delicate pink color. Kioto; Cullingfordii, unrivaled yet in its deep crimson; Source d'Or, of an orange tint which has never yet been duplicated in any other flower, and many more, were shown in almost perfect specimens. By the way, Mr. Verner's collection would have been improved if Cullingfordii had been substituted for one of the pink flowers. Five pink varieties are too large a proportion of that color in a dozen Chrysanthemums.

Of flowers for the first time shown, Harry E. Weidener, a bright lemon yellow, of the Grandiflorum type and perfectly incurved, took the Blanc prize. It was raised by William Jamison and shown by Hugh Graham's Sons. The same firm gained an award for a white seedling, incurved, and also of perfect form and immense size. Crown Prince, grown by James Monahan, gardener to Mr. Charles Trotter, is an evident improvement on Mrs. Wheeler, much larger and of freer growth. J. T. Emler is in the way of Mrs. Carnegie, and has a better form than that fine flower. Molly Bawn is a white sport from the well known Syringa—a novel form in a white flower. Thomas A. Edison is very large and valuable for its color—a creamy lilac and quite new. Eldorado is of the deepest yellow—a yellow flushed with orange—and Mrs. Trotter is a beautiful flower of a novel lilac shade. John Hughes, gardener to George W. Childs, showed several fine seedlings, a firm white and a delicate rose with pale reverse, both being especially good. Mr. W. H. Graham showed one large, incurved blush white with broad florets, and another of pure white. The flower which won the premium as the best single bloom was Mrs. W. K. Harris, to which the plant prize went last year. It is a large, rich yellow, incurved, very deep, and carrying as many florets, perhaps, as any Chrysanthemum in cultivation.

Of many other admirable new flowers, like Progression, Coronet, E. G. Hill and Ada Spaulding, we have no space to speak; but it is to be hoped that by another year the National Chrysanthemum Society will be prepared to give certificates to such as merit the distinction. Mr. Peter Henderson's new Louis Bœhmer would have caused a sensation two years ago, since it is almost an exact reproduction of Mrs. Hardy, except in color, which is called by some a silver rose and by others a rosy lilac. It is not a lively tint, and the pubescence, which is quite as dense as that on Mrs. Hardy, rather dulls than brightens it. The plant is interesting as a new example of downy florets, and it will prove useful to the hybridizer. The cut flowers, as a class, were good, but inferior in quality to the plants. The twelve blooms which took the grand prize were H. Cannell, Domination, Compte de Germiny, Kioto, Lord Byron, Mrs. Frank Thompson, Mrs. Langtry, W. W. Coles, Mrs. W. Barr, Gloriosum, E. Molyneaux and Mrs. Houston.

Among the principal prize-takers besides those named above, were J. W. Colflesh, Gordon Smirl, F. R. Sykes, Thomas Long, E. P. Wilbur and George L. Fowler.

Philadelphia. *S.*

The Chrysanthemum Exhibition in Boston.

THE exhibition of Chrysanthemums of the Massachusetts Horticultural Society, which opened in Boston on Tuesday of last week, was the most successful the Society has given. The season has not been a particularly good one for the growth of the Chrysanthemum and several of the Massachusetts collections have suffered seriously from the attacks of a species of Typhlocyba, closely allied to the Rose-leaf hopper, which, unless some method for keeping it in check can be found, seems destined to interfere seriously with the successful cultivation of this popular plant.

The exhibition, however, in spite of these drawbacks, was surprisingly good, and contained a larger number of well grown plants and of cut specimen flowers than any of its predecessors. The arrangement was good; the lower hall being devoted to cut flowers, while in the larger upper hall the specimens were most effectively arranged in great groups and banks. The exhibition was varied, but hardly improved by the introduction of a number of tall, single stemmed plants with one flower, or, at most, a couple of flowers at the top of the stem. This is the favorite English fashion of growing Chrysanthemums, and an unnatural one it is, and not to be encouraged except when abnormally large, single flowers are wanted for exhibition purposes. The tall standard plants, with naked stems five or six feet high and surmounted with a scanty parasol-head bearing occasional tired looking flowers—wonderful examples, no doubt, of cultural patience—were hardly attractive either, and not to be compared, from an ornamental or from a useful point of view, with the compact half specimens, like those with which Mr. Walter Hunnewell took the first prize in the class for twenty named varieties. These were models of what Chrysanthemums should be; compact, well grown plants, with rather short stems, covered to the pot with large, healthy, deep green foliage, and profusely flowered, with blooms not too large to appear unnatural or to lack substance. A better or more even lot of twenty well grown and well selected plants has not been seen in Boston.

The big flowers, however, attracted the masses, and a stand of eighteen cut flowers, of Japanese varieties, shown by Mr. Simpkins, of Yarmouth, was surrounded from morning till night by crowds of people, who learned here, perhaps for the first time, what a Chrysanthemum flower, in the hands of a first-rate gardener, can be developed into. The flowers which represented most of the new favorite varieties were simply marvelous in size and quality, and it is not easy to imagine that larger or better grown specimens have ever been produced.

An interesting feature of the lower hall was the row of tall vases occupying the end platform, containing cut flowers of many of the best varieties, with stems a yard long, and evidently grown specially for this purpose. The beauty of the flowers was heightened by the fact that only three or four specimens, always of the same variety, were used together in the same vase. This exhibition was made by Galvin Brothers, and showed how the Chrysanthemum can be used for the very best effect in large decoration.

The usual number of new varieties and of seedlings were shown. But it is not wise to judge of these from an acquaintance which does not extend beyond the show-table; and the number of novelties which are produced now in all countries is so great that a new variety should be subjected to the severe trial of long cultivation and to varied conditions before the public can take much interest in it. The new seedling, Ada Spaulding, is a case in point. This is the variety which, at Indianapolis the other day, won the cup offered by the wife of the President of the United States for the best American seedling Chrysanthemum for the year, and which has thus gained a sort of national reputation. The flower was, no doubt, badly shown in Boston; as seen here it was not large, and lacked substance; the color was weak and washy, as if it had been taken from a weak plant and had suffered from traveling. But due allowance being made for all this, it was no better than a dozen other seedlings of the year, which appeared here, and there were many better varieties shown in the exhibition.

The following first prizes were awarded by the Society: For a display of twenty named plants, distinct varieties, to Walter Hunnewell; for twelve plants, to Mrs. Francis B. Hayes; for sixteen Chinese varieties, to Dr. H. P. Walcott; for six Japanese varieties, to Dr. H. P. Walcott; for six Chinese varieties, four blooms each, Dr. C. G. Weld; for a specimen plant of Chinese variety, H. L. Higginson; specimen Japanese "Snow-storm," H. L. Higginson; specimen Pompon plant, Dr. H. P. Walcott; specimen Anemone plant, H. L. Higginson; best standard specimen plant, Dr. C. G. Weld; for twelve blooms of Chinese varieties, Joseph P. Melley; twelve blooms Japanese variety, John Simpkins; six blooms of Chinese varieties, E. A. Wood; six blooms of Japanese varieties, John Simpkins; for best fifty blooms, E. A. Fewkes & Sons, who received also, for fifty blooms, a piece of plate provided from the Bradley fund. A special prize, the Society's Silver Medal, was awarded to James Brydon, gardener to Mr. Simpkins, for the best seedling of 1889; Fewkes & Son and George Hollis winning the second and third prizes for new seedlings.

Boston. *D.*

[The Chrysanthemum, Ada Spaulding, is rather an early variety, and it was not as good a flower when seen in Boston and Philadelphia as it was the week before in Indianapolis. It has bloomed the second season and we can now speak of it with some confidence. Its color is not the most desirable, but it has unusually good form, size and substance. Our correspondent does well to note the fact that every year brings a host of novelties, which are no better than the old kinds. But certainly no one would discourage the production of new seedlings—for this is the only road to improvement. Only a small fraction of one per cent. of the kinds raised prove worth propagating; but it is proper to offer prizes for the best Chrysanthemum of the year and in such contests it is plain that the new ones cannot compete with the older sorts. What we need is not fewer seedlings—but some tribunal to pass vigorous and impartial judgment on them. If our National Chrysanthemum Society will assume this authority and exercise it firmly and judiciously, they will place every friend of this flower under obligations.—ED.]

Notes.

A lot of Chrysanthemums, imported from Japan by Messrs. Pitcher & Manda, have just bloomed, and one of them turns out to be the veritable Mrs. Hardy, now introduced for the second time into American gardens.

Mr. F. T. McFadden contributed 300 Chrysanthemum blooms to the Indianapolis Exhibition—twelve each of twenty-five varieties—which were pronounced by John Thorpe the best collection of such a size ever seen in America.

We are glad to know that the demand for Mr. Ellwanger's pleasant book, "The Garden's Story," has been such that a second edition has already been issued. The book appears in heavier paper, with a new and most appropriate design for the cover.

The Emperor of Brazil has recently sent to our correspondent, M. Naudin, the decoration of Commander of the Order of the Rose of Brazil, in remembrance of his visit to the gardens of the Villa Thuret, and as a token of his appreciation of M. Naudin's eminent services to botany and horticulture.

Reports from Los Angeles confirm what has already been stated in regard to the effective work of the parasite which was imported to check the increase of the Cottony Cushion Scale. The prospect now is that the Icerya, which threatened to destroy the Orange orchards of California, will itself be exterminated by its microscopic enemy.

A variety of the Chinese Juniper (*J. Chinensis*) with distinctly pendulous branches is one of the interesting and attractive novelties among the numerous conifers of abnormal growth which have lately appeared in European nurseries. It originated on the Continent a few years ago, and has been propagated at Knap Hill by Mr. Anthony Waterer.

The interesting History of the Chrysanthemum, which was prepared for the *Gardeners' Magazine* by Mr. C. Harman Payne, is illustrated by portraits of men who hold positions of prominence in the annals of the flower, from Sabine and Bernet down to the present time. Dr. H. P. Walcott and Mr. John Thorpe represent America in this picture gallery.

Spring is, of course, the time to see a bulb-garden in the Netherlands at its best. But from an account of a visit to one at Haarlem in the early autumn, recently published in a German journal, they must be very beautiful at that season too, gay with a multitude of Tritomas, Tigridias, Amaryllis, Gladioli, Nerines and Autumn Crocuses, and their borders adorned with a multitude of late flowering shrubs and annuals.

Among the announcements of articles to appear in *Scribner's Magazine* during the coming year we note the promise of a series dealing with American homes and their surroundings in town, suburb and country. This announcement is a cheering proof that, in the opinion of the editors, the interest which Americans have of recent years shown in the construction and arrangement of the home building is extending itself to the home surroundings, and that they are, in truth, one and indivisible.

Among horticulturists promoted to the grade of officer in the Légion d'Honneur for their connection with the Paris Exposition, may be mentioned M. Ed. André, the distinguished landscape-gardener and the editor of the *Revue Horticole*; M. Henry L. de Vilmorin, President of the Botanical Society of France and head of the house of Vilmorin, Andrieux & Co.; MM. Croux and Moser, the well known nurserymen; and M. Choisy, professor of landscape-gardening in the national school at Versailles.

A number of plants of *Cattleya Bowringeana*, including an immense mass with twenty-five spikes, recently imported, are now in flower in Mr. Ames' Cattleya-house. This is one of the handsomest of the early autumn-flowering Orchids. The flowers, of which a dozen or more are borne on a spike, vary from pale lilac to rose-purple, shaded to dark crimson on the front lobe of the lip. It is a native of Honduras, and was introduced into England by Veitch & Co. in 1884. It is considered an easy plant to manage.

The foliage of Hall's Honeysuckle continues bright and green, as it usually does at this season, and it will, no doubt, persist up to the holidays. It is rather late for the flowers, however, but they are still opening in considerable numbers where the vine has a sheltered and sunny exposure. For some days past a vine trained against the south side of the Pennsylvania Railroad Station at Marion, New Jersey, has attracted much attention for the cheerful display of bloom it is making in the face of approaching winter.

There is certainly real cause for regret that the Japanese Maples are so unreliable in the climate of this country, for some of the forms of *Acer polymorphum* especially are unsurpassed by any other plant in the beauty of the colors which their leaves assume here in late autumn after the foliage has fallen from nearly all the native trees and shrubs. They are hardy enough, and grow rapidly, and then, perhaps, at the end of two or three years, or possibly ten or fifteen, just as they begin to show their real habit and character, they often commence to die branch by branch, and then soon disappear.

On the evening of the fourteenth instant the local Florists' Club at Summit, New Jersey, formally took possession of a new reading-room and bowling alley, which had been provided for the club by Mr. John N. May, upon his grounds. There were a hundred guests present, many of them from distant points, like Boston and Philadelphia, and including the secretary and four former presidents of the Society of American Florists. A collation was served in Mr. May's long potting shed, which was converted into a veritable bower of beauty by a profuse use of greenery, with Roses, Orchids and Chrysanthemums.

Not long ago we spoke of the value of *Ceratostigma plumbaginoides*—the blue Plumbago—as a hardy, low-growing perennial plant; and in one of his pleasant letters, Mr. Nicholson lately described the dazzling effect of a mass of this plant along the top of a wall in the Via Petrarca. It is worth noting that after the flowers have been checked by frost the foliage turns to a deep red. According to Mr. Nicholson, the plant requires a rather dry and poor soil and a sunny situation. We have in mind a mass of it in deep, rich soil, partially shaded and certainly not dry this year, and the foliage is now fairly glowing with a color which is nearly a maroon.

Kerria Japonica, one of the first plants brought from Japan, and an inhabitant of most old-fashioned country gardens, has much to recommend it, especially the single flowered form, which is much less commonly seen than that with intensely double flowers. This shrub is beautiful in winter, with its conspicuous, slender, light green branches; it is beautiful when it is covered in early June with its bright yellow flowers, and just now it is particularly attractive. The foliage turns late always, but when it does turn it takes on a clear, brilliant, sunny yellow, which is unsurpassed. There is no more beautiful or distinct looking shrub during the early days of November than the Corchorus, the old familiar name for Kerria.

A law case of general interest to horticulturists is reported in a late issue of the *Gardeners' Chronicle*. The plaintiff, a nurseryman, had purchased 500 roots of what he was led to believe was *Spiræa palmata*. He took them home with him, potted them, and grew them from November until June, when the plants flowered, and it was discovered that, instead of being *Spiræa palmata*, they were *Spiræa elegans*, a comparatively worthless species, it appears, for his purpose at least; and he was able to show that the plants he had purchased possessed no commercial value. The plaintiff claimed the one shilling and three pence for each of the 500 plants, which he would have obtained for them when fully grown had they been of the kind he supposed he was buying. No charge of fraud was made against the defendant, who, evidently, was selling in good faith what he thought was *Spiræa palmata;* but the jury found for the plaintiff the full amount claimed, and judgment was given accordingly.

The Chrysanthemum has fairly captured the town of Boston. The public flocked to the Horticultural Society's exhibition of the favorite flower, which fills every florist's window to overflowing. It is sold at the street corner in profusion and excellence, and a woman is rarely seen in the streets without a bunch, big or little, in her hands or on her dress. This remarkable popularity has grown in recent years, for it appears, from an authoritative article published last week in the *Boston Evening Transcript*, that the first record of the exhibition of Chrysanthemums in this country was in 1830, when fifteen varieties were shown at an exhibition of the Massachusetts Society. The first prizes for Chrysanthemums, amounting to a total of $17, were offered in 1861. Seven years later the fall exhibition of the Society was first called the "Chrysanthemum Show," and the prizes were increased to $55. They were increased to $150 in 1879, and an entire day was devoted to the exhibition. The exhibition in 1882, although planned for only a single day, excited so much interest that it was kept open two days, and this plan was continued until 1886, when three days were required, as they have been in succeeding years, to satisfy the popular curiosity. The prizes, too, have been gradually increased until they now amount, in the aggregate, to the handsome sum of $741.